responds that "Yes, halogens work fine. ... but remember halog ns are quite hot and the potential for fire is not negligible...."

Exhibit F is a printout from the personal web site of Ken Corneliusen discussing quartz and full voltage halogen lighting and showing a picture of the type of halogen bulbs used in worklights and shown at reference numeral 21 in applicant's FIG. 1. The printout comments, "Cost for the lamps is significantly higher and they run **HOT HOT HOT**." On page 2 the printout comments, "Even with the protective enclosure the case of the work lights becomes quite hot and care should be used if it is mounted where you might touch or brush up against it.

Applicant's Response of November 19, 2002 provided evidence of longstanding and widespread recognition of the hot-worklight-surface problem in the worklight industry (UL Standard 153 regulating maximum worklight surface temperature, Consumer Product Safety Commission worklight recalls, and warning labels placed on the worklights by the manufacturers). The present exhibits show widespread recognition of the problem by the end users themselves. The widespread recognition of the hot-worklight-surface problem is a *Graham*-type secondary consideration that must be taken into account in the analysis of obviousness under Section 103.

The undersigned asserts that all the pending claims are allowable, including claim 13, which links the claims under examination to those withdrawn in response to the restriction requirement. The undersigned requests that the restriction requirement be withdrawn in accordance with MPEP §809 and asserts that the claims previously withdrawn from consideration are allowable in view of the evidence and explanations of the Response of November 19 and the present Supplemental Response.

Respectfully submitted,

Elliot B. Aronson
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I hereby certify that this correspondence is being facsimile transmitted to the Patent and Trademark Office on the date shown below.

12/9/02
Date

By Elliot B. Aronson
Elliot B. Aronson
Reg. No. 29,279

Industrial Halogen Lighting

I recently saw an industrial strength halogen lighting stand with two lamps at Sam's club. For those of us on a budget (this set up costs only $70), can this be used as a makeshift studio light? I figure that various covcrings could be introduced to reduce the light output. Would I need any color correction filters for halogen lighting (ie, what's the temperature of this light?). The stand is adjustable and easy to move around, and wayyyy cheaper than even the most basic lighting setups from a photo retailer.

Thanks in advance for any input.

-- Nick Stroumbakis , February 09, 2001; 11:11 A.M. Eastern

Answers

Mind you, I'm not a photographer, just a geek, but I figure I'll offer my two cents.

1. Halogen lights put off a _lot_ of heat. Really hot.
2. Halogen lights put off a great deal of UV light. Unless you bounce the light off an incident surface, or pass it through a thick pane of glass, expect to get sunburnt after a few minutes.

-- Jon McClintock , February 09, 2001; 01:42 P.M. Eastern

The color temperature of industrial halogen lighting should be very close to "photo" halogen's. The problem is the quality and control of the lights will be very poor. That is, the eveness of the light spread will be very poor and it will be very difficult to attach barn doors, scrims, etc.

If all you want to do is raise the overall light level by bouncing the light off a white ceiling or reflector or directing the light through heavy diffusion material (as in a light box), then it should be OK. If you want to use it as a poor-man's photo flood, you will be disappointed.

Joseph Perecman

-- Joseph Perecman , February 09, 2001; 02:36 P.M. Eastern

Nick,

I own two "work" lights that each give 500W of light. While they are EXTREMELY hot, since I do most of my work in black and white, I love them. My lights have thick UV coated glass and with foil I've made some primitive barndoor vignettes.

Normally I'll put my model against the backdrop, and just out of the frame of the camera I'll hang medium weight muslin from the ceiling. I aim the lights at the muslin (at a distance) and use them like giant softboxes. They give a nice smooth light.

The downsides: Heat, heat, heat. EXTREME caution is needed when moving these things while hot. There is some uneven lighting when using the bare bulbs, but the muslin curtain trick seems to make that go away. They also consume a lot of juice. I hope you have the switch style circuit breakers, otherwise load up on fuses.

The upsides: Cost. Cheap, easy to replace lamps. I've used them for worklights around the house when needed. With a little creative use of foamcore board and muslin, you can create some fantastic lighting. Get an 87 opaque filter and some IR film, and you have an awesome creative outlet. These things kick off tons of IR. I've also used them as hair lights with a White Lightning strobe and some foamcore as the main light.

yiasou

-- Peter Mavrikos , February 09, 2001; 05:17 P.M. Eastern

The Lowel Tota cost a bit more at $110. The advantage of photographic lighting equipment is the accessories that comes with a lighting system. Photographic lighting isn't about light. Its about control. I can use a lot of different light modifiers and different mounting devices with the Tota. In time you might wish to upgrade and this industrial lighting will not make you no longer happy because you realize its limitations. I am not against hardware store lighting. However I found the beautiful clamp light to be more useful. This light is directional while the light you are looking at is a broad thrower. You want to be able to direct the light and not just have light. If it is truly halogen you can make some great work with Fuji NPL (warm negative film) and 64t II (neutral and beautiful slides). I know long exposure with people seems to be forever but I do produce sharp images with this low power lighting. People can stay still for a long time. however I shoot 4x5. I would recommend that you look into Lowel because it pro gear and not too expensive. Another company you may have missed is Smith Victor. They make really good clamp lights they can take the higher wattage bulbs, have a reflector and a handle. The beauty of tungsten pro lighting is the really good gear isn't that much more expensive than the lower end stuff.

-- David Payumo , February 09, 2001; 09:00 P.M. Eastern

The comment above on UV exposure is interesting and scary if true.

I get good results using tungsten Ektachrome (64T, 320T)under these type lights.

-- Charles Mackay , February 11, 2001; 01:03 A.M. Eastern

"Halogen" bulbs do put out ultra-violet radiation. That is why all halogen lamps sold these days (at least ones for direct illumination) have glass filters to block the UV. Common glasses do not pass UV, but "quartz" (fused silica) does. Be sure not to use these lamps without their protective filters. Other than that, the only other hazards are heat, brightness, and power consumption.

Photographers for years used hot lights and made excellent studio photographs. While studio strobes are much nicer, photographers on a budget can certainly use older technology for many purposes.

-- Allen Walker , February 11, 2001; 11:17 P.M. Eastern

I would like to contribute to the crowd. Stay away from Heat, heat, heat!!!!!!!!!!!!!! Also I will guess that since youre purchasing the lights from a store, the cost to filter a halogen (balancing to daylight) with no fixed reflector might be great enough to equal the purchase of a possibly more expensive source that would be easily filterable and easy to repair/replace. Lowel.

-- Howard Simmons , February 20, 2001; 07:00 P.M. Eastern

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-- Howard Simmons , February 20, 2001; 07:00 P.M. Eastern

Contribute an answer

and Bronica) and more at photo.net's **ezShop**.

(Rollei Qz-35t shown)

Inexpensive lighting for b/w studio work

Hi, Does anybody have suggetions on the most inexpensive method of lighting for a studio for b/w portrait work? Can I use regular halogen lamps, etc.? Are reflectors useful? Also, any background tips? Cost is the main issue for me. Thanks for your help.

Han Kim

-- Han Kim , November 18, 1998; 02:39 A.M. Eastern

Answers

For black and white, you can use any kind of lighting you wish, if it gives you acceptable shutter speed/aperture settings. For a low cost background, try bed sheets. Go to your local discount mart, and get the cheapest ones you can find. You can make a cheap background stand from pvc pipe, or just tack it to a wall. Reflectors are very useful.

-- Ron Shaw , November 18, 1998; 10:26 A.M. Eastern

Yes, halogens work fine. Reflectors and/or diffusers are critical to getting interesting light on your subjects, but remember halogens are quite hot and the potential for fire is not negligible. The heat also makes considerations of comfort for yourself and your models something to plan for.

Frank

-- Frank Kolwicz , November 18, 1998; 10:29 A.M. Eastern

Daylight through a window

-- Ellis Vener , November 18, 1998; 11:08 A.M. Eastern

Ordinary sockets with reflectors can be bought at the hardware store for less than $5.00 US each. Rosco Co. sells diffusion material that is heat resistant/color neutral. Buy it at photo store or cine supply store --- $5.00 plus per sheet. Hang these a short distance in front of lights for diffuse effect. Do not substitute paper or drape over lights; risk of fire.

I use 3200k tungsten bulbs; brighter and, with light filtration, color correct for tungsten film if you want to use that but tungsten bulbs cost $6.00 or more each and only last a few hours. The 3200k bulbs last longer than the 3400k bulbs and are cheaper.

If you have a slide projector it will make an excellent spot light.

If you have a shoe mount flash, a lot of photo stores have a mount that allows you to put the shoe mount flash on an ordinary light stand. I have one made by Rowi that I use all the time. It has a sync cord so I can use my shoe mount flash on my older cameras without hot shoe and a screw thread in the bottom that fits a standard tripod thread (so you can mount it on top of your tripod or on top of a lightstand with a threaded top). I also bought for very little a PC cord extension about 15 feet long. It has a PC male on one end and a PC female on the other. With that I can place my flash on a stand across the room and plug it into my camera's PC socket.

-- s.p , November 18, 1998; 11:47 A.M. Eastern

For backrounds I go to either Hechingers or Home Depot and buy dropcloths for painting. Then use fabric dye (I forget the brand but they have it in any fabric store)to color it. If you stuff it into a bucket when you dye it (don't bunch it together tight because it'll look like tye-dye)the color will come out uneven naturally. Store it dry by just crumpling it so it's wrinkled or else you'll have unnatural looking straight creases in it when you hang it.

-- Okello Dunkley , November 18, 1998; 04:10 P.M. Eastern

A good set of windows, fome-cor for reflectors, some with aluminum foil taped to them for more contrast, and shoot away. Cost is zero for lighting and you will have to learn to work with the light very carefully and spend time with the models/clients to get the light working with them to greatest advantage. Otherwise, try the quartz/halogen shop lights from KMart/AutoZone type stores and reflectors. Cheap, a lot of light & safety glass in front of the quartz tube for protection if you knock them over.

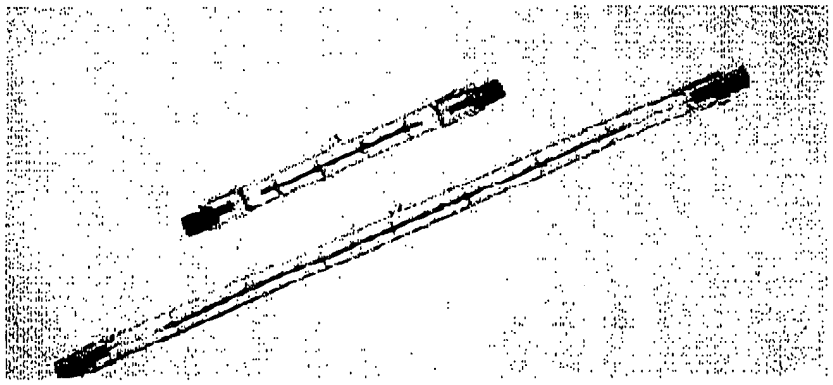
-- Dan Smith  , November 18, 1998; 10:34 P.M. Eastern

Contribute an answer

Quartz and Full Voltage Hal gen Lighting

Specifications in Short:

- Lamp Life Varies with application, up to 5,000 hours under lab conditions.
- Lumens Per Watt 20 to 25
- Color Temperature (°Kelvin) 3000
- Color Rendition Index 100



Characteristics

Quartz or quartz iodide is another form of lighting that has been around for a while but is starting to show up in home centers and similar stores for home use. Advertised as work lights they come in a few wattages in the 100-500W range. Another variation on this style is showing up as a direct replacement for standard incandescent lighting. In this case the name Halogen light bulbs is used. Both are really variations on the standard incandescent light bulb. The higher the temperature you operate an incandescent lamp at the more efficient it becomes. The problem is that at high temperatures, the metal that makes up the filament "boils off" for lack of a better description. As the metal boils off, the filament becomes weaker, and the life of the lamp decreases. In quartz or halogen type incandescent lighting they add halogen compounds to the atmosphere in the lamp and the effect is to slow down the "evaporation" of the metal in the filament and encourage re deposition of the metal on the filament. The result is that you get many of the good characteristics of the incandescent bulb. Instant on, no ballast, constant light output over the life of the bulb and added efficiency. As usual there is a downside as well. Cost for the lamps is significantly higher and they run **HOT HOT HOT**. The heat is so great that it is generally necessary to protect the user from the bulb by means of a secondary barrier. In the case of the work lights there is a glass cover over the exposed area of the fixture. In the case of the halogen bulbs there is a bulb within a bulb design. Even then they will both operate at very high temperatures and

this can be a drawback. If you place one of the work lights behind you and let the light shine down , over your shoulder, onto the work area, you may shortly find your neck starts burning like you had a severe case of sunburn. Fortunately you normally move before it becomes a real burn but it is a drawback. Even with the protective enclosure the case of the work lights becomes quite hot and care should be used if it is mounted where you might touch or brush up against it. It is unlikely to get hot enough to start a fire if it is mounted in open air even if it comes in contact with combustible materials. On the other hand, there can be a real danger if you mount it in a way where they are surrounded by material that prevents the heat from dissipating.

Another group of lamps that are showing up in halogen form are spot and flood lights such as the PAR class of lamps and smaller track light styles. In this case improved reflector designs give additional performance benefits. There are many specialized versions available developed for product accent lighting and other commercial purposes that may serve well in home applications as well.

Shop Tips

A critical aspect of the dealing with the quartz tubes that are used in the work lights is to **NEVER** touch the tube with your bare hands. The oils in the skin on your hands, if it gets on the tube, will effect heat dissipation of the lamp. The result will be very short lamp life. The replacement lamps will come in a sleeve, leave the lamp in there until used and then always use a **clean** paper or cloth to handle the bulb when installing.
As a point of general information the oils naturally present on your fingers and hands can cause problems in many electrical areas. A good example is watch batteries. You should never handle a watch battery with your bare hands. When you replace a watch battery use tweezers or some other tool to handle the battery because even a small amount of skin oil on the battery can greatly increase the contact resistance and dramatically reduce effective battery life.

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Last Revised 11/28/97

By ktc@en.com (Ken Corneliusen)